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THE EMC UNIFORM SYSTEM OF THE MUTUAL ECONOMIC AID'S COUNTRIES,(U)
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THE EMC UNIFORM SYSTEM OF THE MUTUAL ECONOMIC AID'S COUNTRIES

by

Ewa Mankiewicz-Cudny

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EDITED TRANSLATION

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THE EMC UNIFORM SYSTEM OF THE MUTUAL ECONOMIC AID'S COUNTRIES

Ewa Mankiewicz-Cudny

The concept of the Uniform System of the Electronic Digital Machines (JS EMC) arose already in 1968. In 1969 the countries belonging to the Council for Mutual Economic Aid signed the agreement concerning this issue. At the beginning this project was being realized by Bulgaria, GDR, Czechoslovakia, Poland, Hungary and U.S.S.R. Later on Cuba and Rumania joined them. All machines which are included in this system belong to the 3rd generation. The JS EMC family actually embraces 7 types of the central units which are named RIAD (a number). These are R-10, R-20, R-20A, R-30, R-40, R-50, R-60 as well as more than a hundred different peripheral devices which can get along with any processor. The R-10 machine plays the role of a minicomputer in this family.

The computers which are included in the JS EMC system have a uniform systemic and utilizable programming. They are characterized by a minimum preparation time, minimum testing and program making time. In the RIAD computer system there exists a wide possibility to develop technical sources up to the processor's changing with maintaining the program compatability. ALGOL, FORTRAN, PL/1, COBOL, ASSEMBLER and RPG are the principle languages. The operational speed of the JS computers (uniform system computers) is very high and amounts from 25×10^3 operations per second for R-20 and 5×10^5 operations per second for R-50 up to 1.5×10^6 operations per second for the R-60 machine. The memory capacity for the R-20 amounts 64÷256 kilobytes whereas that for the R-60 amounts to 256÷2048 kilobytes.

The RIAD type computers have a developed system of errors detection, are able to handle 15 problems as well as the automated program testing. A change of the composition or characteristics of the peripheral devices does not cause changes in programming. Within the JS EMC it is possible to create multiple-machine sets.

In 1972 in Poland the scientists and engineers of the WZE MERA-ELWRO

scientific-research center and the Mathematical Machines Institute began to develop the Polish JS machine. The first prototypes were accomplished in 1974 and the R-32 computer system, presently belonging to the JS EMC system, are in serial production. Besides that, very many enterprises of the computer field produce the outside devices which are parts of the JS EMC system.

The R-32 computer system

The R-32 computer system (See photo) is designated mainly for the data transformation as well as for scientific and technical computations. The module construction of this computer enables to complete the equipment and program according to its designation. Besides that there is a possibility of an optimal selection of the configuration and the system's further development as requirements are growing. This machine operates with the average speed of 2×10^5 operations per second. The R-32's basic programming is composed of two operational systems, namely: DOS/JS (the disk operational system) and OS/JS (the operational system).

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